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LOCKHEED MARTIN



John M. Hogan
Vice President, Engineering

September 7, 2000

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th St., S.W.
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Re: Ultra-Wideband
ET Docket 98-153

Dear Ms. Salas:

This letter is in response to the FCC's Notice of Proposed Rule Making on ultra-wideband radio. Lockheed Martin Information Systems Company (LMIS), a leader in simulation and training technology systems, has a keen interest in the application of this technology to our Live Training products for government, military and law enforcement agencies.

Ultra-wideband Technology offers several features of performance that are particularly useful to Live Training. High data bandwidth, spectral efficiency, low power density, low probability of intercept, and sub-centimeter position resolution are all features directly applicable to current training systems. The low power characteristics of ultra-wideband systems enables unlicensed operation that could eliminate increasingly severe spectrum allocation issues. Improving position location accuracy from multiple meters to sub-centimeter enables greatly increased training effectiveness. Additionally, the extreme accuracy and building penetration features are highly desirable for use in training scenarios in urban terrain where normal GPS location systems become unusable. In cellular telephone applications, the positioning capability offers an inherent solution to the 911 location problem. High data throughput, low probability of intercept, and potential channelization of the transmissions provides opportunity for aggregation of multiple wireless entities onto a single channel while improving data transfer performance and maintaining data security. Ultra-wideband offers huge power savings advantages for use in battery operated systems, with concurrent operational cost benefits. Power radiation for equivalent cellular performance can be significantly less than current deployed technologies, which would radically increase battery life and spectral efficiency while reducing radiation hazards to personnel. The high data bandwidth potential could solve some of the wireless data requirements with respect to internet connectivity. Telemetry information of all kinds could benefit from high bandwidth, low power systems. High definition television or similar systems may benefit from the elimination of fading issues associated with multipath continuous wave transmission systems. Potential channelization may allow multiple signals to be co-located or

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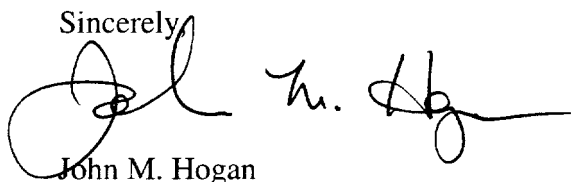
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otherwise combined. Wireless internet from cellular towers offers to both reduce infrastructure costs and to improve consumer data bandwidth in mobile telecommunications. Transition from fixed to mobile systems would then become transparent to the access point and user.

LMIS strongly urges the FCC to promptly move forward on approval of the ultra-wideband technology for widespread use. In addition, LMIS urges the FCC to consider higher power authorizations to allow for extended range coverage (at least several miles) of wireless high bandwidth data systems. Use of this technology would allow LMIS to provide very economical telemetry systems to support the U.S. Army's requirements for many large instrumented ranges, each covering hundreds of square miles. High data throughput and compatibility via standards based systems could allow public service systems to reduce their requirements for dedicated spectrum allocations, promote common channel utilization and support mutual aid issues.

LMIS sees many benefits to incorporating ultra-wideband technology within our product line. This technology has very strong potential to become a defacto standard wireless transport medium for standards based data communications such as TCP/IP. Our Government and military customers have frequently expressed the view that this technology has great promise for increasing training effectiveness while reducing costs for the next generation of training systems, and have already incorporated its use as part of their research and development efforts. Lockheed Martin Information Systems therefore respectfully requests that the FCC approve the widespread use and deployment of ultra-wideband technology, subject to reasonable regulations.

Sincerely,

A handwritten signature in black ink, appearing to read "John M. Hogan", written over a horizontal line.

John M. Hogan